Module 1
Why Should I Be Concerned About Lead Dust?

6/11/03

1-1

Module 1 Overview

- Why is lead-contaminated dust a problem?
- Health risks and effects of lead?
- What is lead-based paint?
- How many homes contain lead-based paint?
- What is being done about lead-based paint?
- Summary

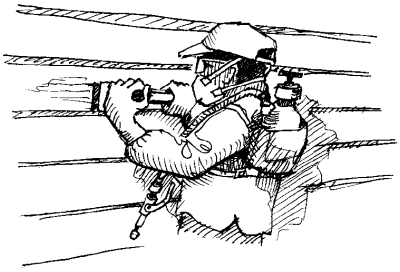
6/11/03

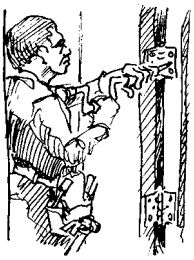
1-2

Upon completion of this module, you will be able to explain:

- Why we are concerned with lead-contaminated dust
- The health risks of lead to children and adults
- What the government is doing about lead-based paint and what you can do to help

How do we create dust?





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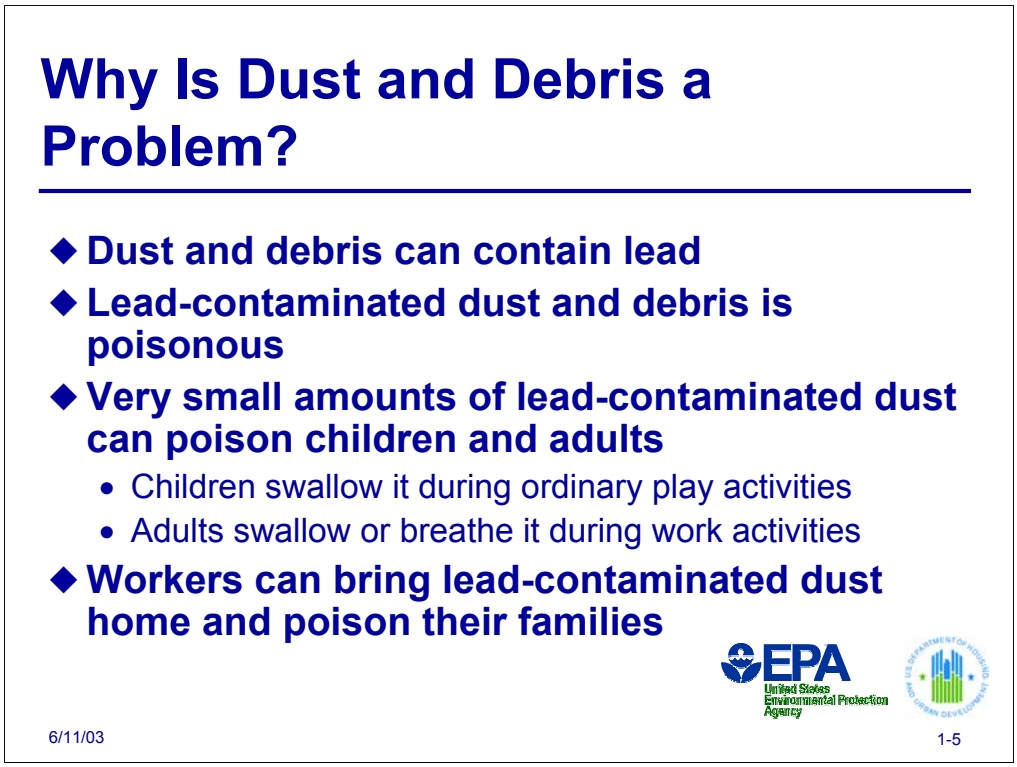
6/11/03

1-3

Note the things that you commonly do during a job that create dust.

A little dust goes a long way.

- **You can't see it.** Even a floor that looks clean can have lead dust. Only a laboratory test can tell you for sure if an area is contaminated with lead.
- **It's hard to sweep up.** Normal cleaning methods will not pick up all the lead in a work area. Sweeping is not enough. You need to clean with water, detergent, and a HEPA-filtered vacuum to clean up effectively.
- **It travels.** Once the lead is released, it is easily tracked out of the work area. An exterior painting job can contaminate the inside of a home as the dust, chips, and leaded soil are tracked inside.



Dust and debris from renovation, remodeling, repair, and painting jobs in pre-1978 housing may contain lead

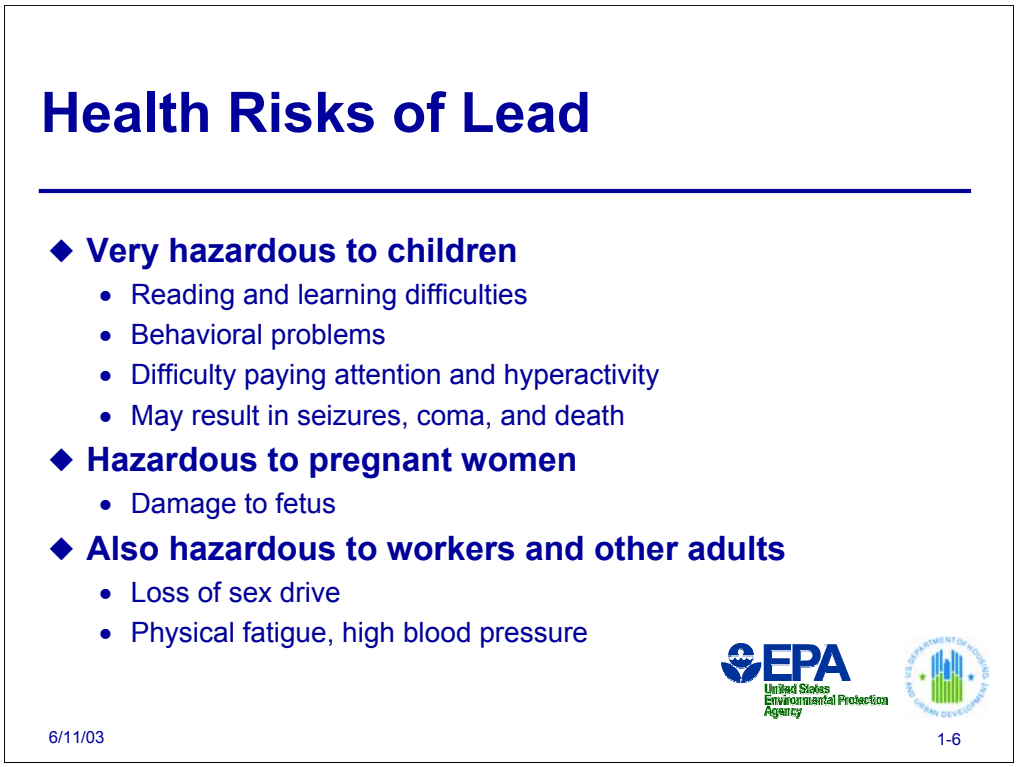
- Pre-1978 paint may contain lead.
- Renovation, repair, and painting jobs disturb paint that may contain lead. Any activity involving surface preparation, such as hand-scraping, power sanding, the use of heat guns, and open flame burning, can generate lead dust or fume. More complicated tasks such as removing building components and demolishing walls also can create a lot of dust.

Small amounts of lead-contaminated dust can poison

- A tiny amount of lead can be extremely harmful.
- Lead particles are often so small that you cannot see them, and yet you can breathe or swallow them. Smaller dust particles that are inhaled or swallowed are more easily absorbed by the body than larger particles, and can therefore cause poisoning more easily.

Lead-contaminated dust is dangerous to children and adults

- Lead particles in dust or fumes may be breathed or swallowed by children, residents, and workers.
- Through normal hand-to-mouth activities, children may swallow or inhale dust on their hands, toys, food, or other objects. Children may also ingest paint chips.
- Adults can swallow or breathe dust during work activities.
    - When workers perform activities such as scraping and sanding by hand or use a power sander or grinding tool, it creates dust. These particles get into the air that they breathe.
    - If workers eat, drink, smoke, or put anything into their mouths without washing up first, they may swallow lead.



Children, particularly children under six, are most at risk from small amounts of lead

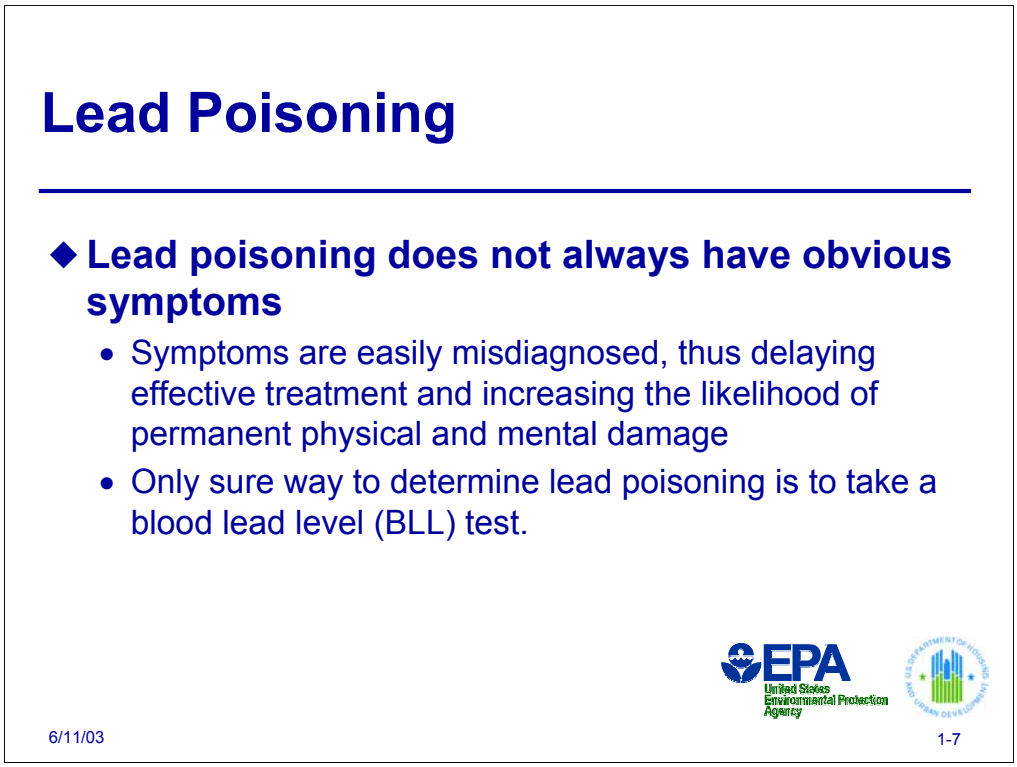
- Children are at a greater risk than adults because, during normal and frequent playing or hand-to-mouth activity, children may swallow or inhale dust from their hands, toys, food, or other objects.
- In children, lead can cause:
  - Nervous system and kidney damage.
  - Learning disabilities, attention deficit disorder, and decreased intelligence.
  - Speech, language, and behavior problems.
  - Poor muscle condition.
  - Decreased muscle and bone growth.
  - Hearing damage.

Among adults, pregnant women are especially at risk from exposure to lead

- Changes in a woman's body during pregnancy may cause lead stored in her bones to be released into her blood.
- Lead can then be passed from the mother to the fetus. Lead poisoning can cause:
  - Miscarriages
  - Premature births
  - Low birth weight

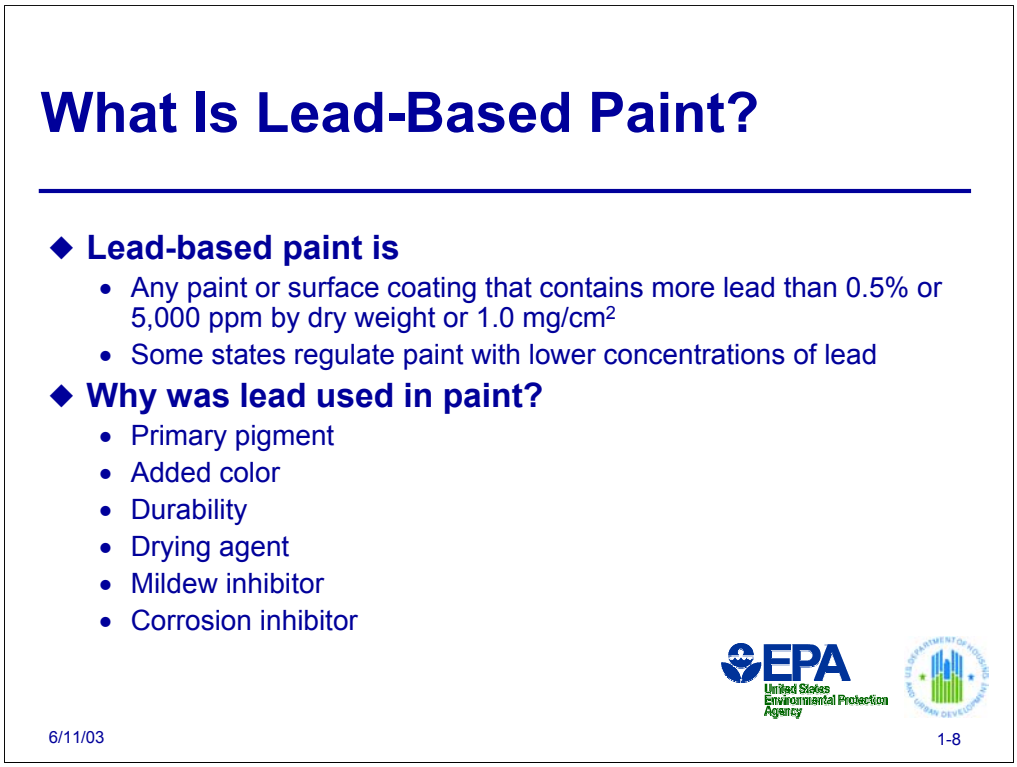
Health effects of lead in adults include

- Fertility problems in men and women.
- High blood pressure.
- Digestive problems.
- Nerve disorders.
- Memory and concentration problems.
- Muscle or joint pain.



Lead poisoning does not always have obvious symptoms

- Lead poisoning often has no obvious symptoms, so symptoms are frequently attributed to other causes.
- Specific symptoms that people with lead exposure sometimes complain of include:
  - Headache
  - Stomach ache
  - Irritability
  - Fatigue
  - Loss of appetite
  - Pain in joints
- Because many symptoms are vague or similar to flu symptoms, parents may not get immediate medical attention for their children. This is critical for young children. The longer lead remains in the body of a young child, the higher the risk of permanent damage.
- The best way to determine if lead is present in the body is by testing a person's blood.
- We measure the amount of lead in blood by μg/dl, a very small unit of measurement. The Centers for Disease Control has designated 10 μg/dl a "level of concern" but even lower levels may be harmful.



Lead-Based Paint

- Lead-based paint is any paint or other surface coating that contains lead equal to or greater than than 0.5 percent or 5,000 parts per million by weight or 1.0 milligram per square centimeter (mg/cm^2) as measured by laboratory analysis or X-ray fluorescence (XRF).
- Paint with concentrations of lead lower than the standard definition above can still cause health problems.

Some states regulate paint with lower concentrations of lead

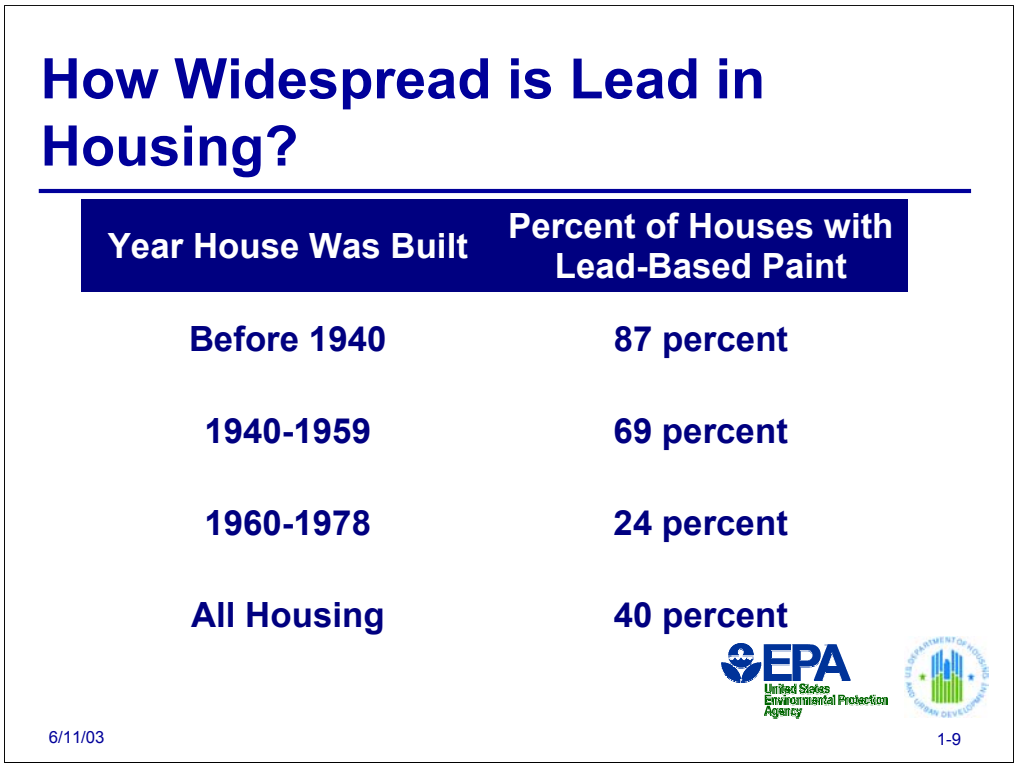
- You should check with your state health department to see if the state has requirements that are more stringent than the Federal requirements.

Why was lead added to paint?

- Lead was added to paint for color and durability. Lead-based paints stood up to wear and tear, temperature and weather changes, and resisted mold and mildew in moist areas.
- Before the 1950's concentrations of lead in paint were as high as 50 percent by weight. From about 1950 to 1973, the concentration of lead in paint was reduced as other pigment materials became more popular.
- In addition to being added to paint, lead was added to all surface coatings.

Lead-based paint was banned from residential use in 1978

- In 1978 the Consumer Products Safety Commission banned the sale of lead-based paint for residential use. In practice, this means that homes built in 1978 could still have used lead-based paint because existing supplies of paint containing lead would still have been available.



- **Source of data in table above:** *HUD Report on the National Survey of Lead-Based Paint in Housing,* 2001.

Homes built in 1978 and earlier

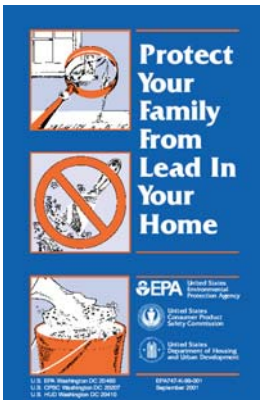
- Approximately 38 million pre-1978 housing units may contain paint that meets the Federal definition of "lead-based paint" (Source: *HUD Report on the National Survey of Lead-Based Paint in Housing,* 2001).
- Play it safe. You should assume that any house built in 1978 or earlier contains lead-based paint unless the house has been tested for lead and the results indicate that the house does not contain lead-based paint.
- Components most likely to have lead include windows and doors (interior and exterior) as well as outside walls and porches.

Homes built before 1960

- Homes built before 1960 are more likely than homes built after 1960 to contain higher concentrations of lead and to have deteriorated paint surfaces. In the 1950's paint companies began to use less lead.

What Is Being Done About Lead?

- **Ban in Residential Housing**
  - Lead-based paint was banned from residential use in 1978
- **Pre-Renovation Education Rule**
  - Contractors must distribute a pamphlet (See Appendix 5).
- **Disclosure Rule**
  - Buyers/renters receive information about lead in their homes
  - They can share this information with contractors



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6/11/03

1-10

Lead-based paint was banned from residential use in 1978

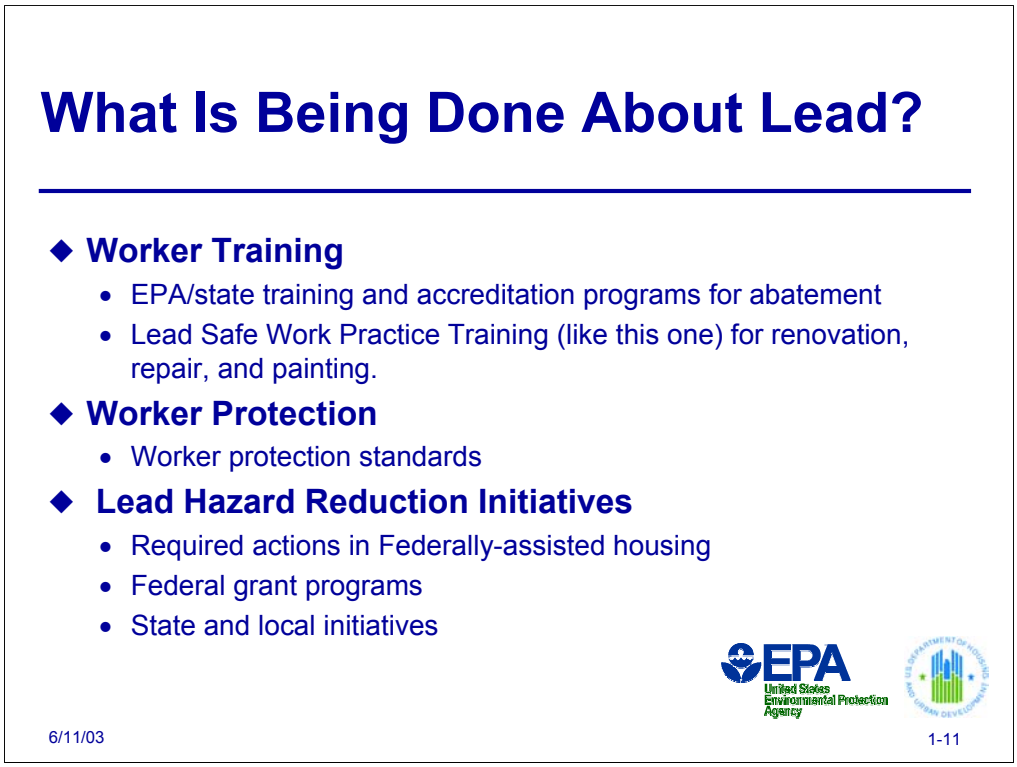
- This means that homes built after 1978 are unlikely to have lead-based paint in them. Some states may have banned it earlier.

Pre-Renovation Education Rule (PRE)

- This EPA regulation requires that contractors distribute a lead hazard information pamphlet to residents of pre-1978 housing before they begin any renovation or remodeling activities. For copies of the required lead information pamphlet, *Protect Your Family from Lead in Your Home*, call the National Lead Information Center at 1-800-424-LEAD. Note: The pamphlet is available in English, Spanish, and Vietnamese.
- The PRE requires written acknowledgment from the client that he or she has received the pamphlet. Alternatively, the contractor can send the pamphlet by certified mail. Contractors should keep this documentation in their files.
- The PRE does not apply to non-residential dwellings, child-occupied facilities, dorm rooms, studios, or housing for the elderly.
- The PRE does not apply to jobs that involve less than 2 sq. ft. of paint per component.
- **Appendix 5** has additional information on the PRE, its requirements, and its exemptions.

Disclosure Rule

- HUD and EPA's disclosure rule requires sellers and landlords to provide the same pamphlet that the PRE does (*Protect Your Family from Lead in Your Home*) and to tell prospective buyers and renters about any known lead-based paint and/or hazards in the dwelling. Because of the disclosure rule, your client may have some information about lead in his/her home. Ask for it.



Worker Training

- EPA has training requirements for people involved in lead abatement (i.e., the permanent removal of lead). This course does not qualify you to perform abatement.
- This training is one of several trainings on Lead Safe Work Practices. It trains you to work safely with lead in standard renovation jobs and it also qualifies you to work in Federally assisted housing or Federally owned housing being sold, as described below.

Worker Protection

- OSHA has a lead in construction standard which outlines worker protection requirements. Your employer should be aware of these. For more information, visit www.osha.gov/Publications/osha3142.pdf.

Lead Hazard Reduction Initiatives

- If you work in Federally assisted housing, certain actions are required to address lead hazards. In these cases, the workers must have proper training. See Appendix 3 for more information on the Federal requirements for worker training and lead hazard reduction in federally assisted housing.
- HUD has a grant program to state and local governments for funding lead hazard reduction activities.
- Check with your states and localities to find out if there are any local programs (which may be State or Federally funded) that are designed to address lead hazards.

How Do I Work Lead Safe?

- **Follow the work practices shown during this training**
- **Plan your work using the chart in Appendix 1 to determine if Federal or State requirements apply to a job.**
- **Properties that receive housing assistance**
  - Ask the agency providing the assistance about lead safety requirements.
- **Jobs involving lead abatement**
  - Tell the owner that a certified lead abatement contractor must perform those activities.

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1-12

How do I work lead safe?

The rest of this course will discuss the practices you need to follow to work lead safe. Also see Appendix 1 for a helpful resource.

Now You Know

- Why we are concerned with lead-contaminated dust
- The health risks of lead to children and adults
- Some actions taken to address lead-based paint

6/11/03

1-13

The modules in the rest of the course describe how proper set-up and containment, safe work practices, and clean-up techniques leave less lead-contaminated dust and debris than standard renovation, remodeling, and painting work practices.